

Media Release

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Bugs Eating Slugs – Farmer’s research puts the bite on exotic pest

Michael Nash, a PhD candidate with CESAR at the University of Melbourne is literally taking science to the field, conducting his research on his farm in Western Victoria.

After taking on the family farm and converting it to cropping, Mr Nash was disappointed with the lack of information available and decided to “go back to school” and undertook a PhD at the Centre for Environmental Stress and Adaptation Research (CESAR).

Focussing on the biological control of exotic slugs by native beetles in canola crops - “bugs eating slugs” - he hopes to contribute to the development of an integrated pest management scheme.

“By modifying our farming practices we try to conserve and help the beetles increase their populations. One species is particularly sensitive to tillage (breaking up) of the soil, so we reduce that to increase their numbers”.

“We also try to reduce pesticide use, which can reduce beetle numbers, by using an integrated approach rather than routine applications of pesticide. Through strategic monitoring we can predict the times when the pest species are present, only applying the pesticides then and reducing the effect on the beneficial beetles”.

Mr Nash also wants to emphasise the importance of understanding the complexity of the systems at work in the field.

“I’m trying to get away from this simplistic thinking, of using a silver bullet to solve all my problems. You have to think about the whole thing” Nash says.

“We grow canola that is tolerant to some herbicides, so we can control rye grass, but this has the consequence of making the canola slower to establish and it becomes more susceptible to establishment pests. The response to increased pests is a perceived need to apply more insecticides, which often has an impact on the beneficial insects”.

“Changing farm management to include reduction of tillage and leaving crop residues in the field after harvest – stubble retention – increases soil quality and water retention, something that is becoming more important as water becomes scarcer due to climate change. Unfortunately, this can have the effect of encouraging invertebrate pests”.

This calls for a highly integrated pest management scheme, where pesticides are used strategically to increase their usefulness against pest species whilst minimising their effect of beneficial insects.

“This is one of the reasons I came to CESAR”, Nash says. It has this multi-discipline approach – it has the lab work on model systems, but it always tries to connect it with the field. I think that’s really important”.

“I came to do my PhD to learn the science, so I could test ideas about pest management properly. A lot of basic science in Australia doesn’t get done, so I wanted to learn how to do it”.

“It’s not enough just being involved in Agriculture, it’s now time for me to be a contributor to its long-term sustainability”.

For further information please contact:

Michael Nash
Tel: 61 3 8344 9693
Fax: 61 3 8344 7089
Email: m.nash3@pgrad.unimelb.edu.au

Media enquiries:

Dr Nerissa Hannink
Media Officer
Tel: 03 8344 8151
Mob: 0430 588 055
nhannink@unimelb.edu.au